

a!

6. A method of emptying a film tube using the device of Claim 1.

7. A method of emptying a film tube using the device of Claim 2.

8. A method of emptying a film tube using the device of Claim 3.

9. A method of emptying a film tube using the device of Claim 4.

10. A method of emptying a film tube using the device of Claim 5.

11. A device for emptying a film tube which contains a flowable substance and has a dispensing end provided with a ring, the device comprising a housing with a displaceable piston and a cap and being adapted to receive the tube between said piston and said cap.

wherein the cap has a dispensing opening, an annular engaging portion surrounding the dispensing opening and cooperating in use with said ring for sealing a dispensing end of the film tube, and a cylindrical end portion adapted to engage an end portion of the housing, and

wherein a gap remains between mutually facing surfaces of said end portions of the housing and the cap when said housing, cap and tube are assembled with said ring abutting said annular engaging portion of the cap.

12. The device of Claim 11, wherein said ring has a conical sealing surface and said engaging portion is formed by an annular portion of said cap.

13. The device of Claim 11, wherein said ring has an annular sealing surface and said engaging portion is formed by an annular portion of said cap which in use abuttingly engages said annular sealing surface of said ring.

14. A method of emptying a film tube using the device of Claim 11.

15. A method of emptying a film tube using the device of Claim 12.

16. A method of emptying a film tube using the device of Claim 13.

17. A device for emptying a film tube which contains a flowable substance and has a dispensing end provided with a ring, the device comprising a housing having an end portion, a displaceable piston and a cap and being adapted to receive the tube between said piston and said cap in said housing, the cap having a dispensing opening and an annular engaging portion surrounding the dispensing opening and cooperating with said ring for sealing the dispensing end of the tube, the end portion of the housing being further formed with an annular shoulder, said cap having an edge portion facing said annular shoulder, the housing and the cap being so dimensioned in the moving direction of said piston that a gap is retained between said annular shoulder and said edge portion of the cap.

18. A method of emptying of emptying a film tube using the device of Claim 17.

19. An assembly for dispensing a flowable substance from a film tube, said assembly

comprising:

a housing having housing side walls,

a piston movably disposed in said housing, and

a detachable end cap operable to close an end of the housing,

wherein said end cap, said housing sidewalls, and said piston together form a film tube accommodating space, and

wherein said housing and said end cap have mutually facing end portion surfaces configured such that, during use with a film tube in said space and the end cap in an assembled condition, said end portion surfaces are spaced from one another to form a gap to thereby ensure that pressure exerted on the film tube by the piston results in a sealing force between the ring and cap even with jamming of the film tube in the interior of the housing.

24/20. A method of dispensing a flowable substance using the assembly of Claim 19.

21. An assembly for dispensing a flowable substance from a film tube, said assembly comprising:

a housing having housing side walls,

a piston movably disposed in said housing, and

a detachable end cap operable to close an end of the housing,

wherein said end cap, said housing sidewalls, and said piston together form a film tube accommodating space, and

wherein said housing side walls have an end section which is disposed inside an

end section of the cap when the cap is in an assembled in use condition, and

wherein said housing side walls include side wall end sections operable to form an abutment surface for a ring disposed at an end of a film tube disposed in the film tube accommodated space during use of said assembly.

25 22. A method of dispensing a flowable substance using the assembly of Claim 21.

23. An assembly for dispensing a flowable substance, comprising:

a housing having housing side walls,

a piston movably disposed in said housing,

a detachable end cap operable to close an end of the housing, said end cap, said housing sidewalls, and said piston together forming a film tube accommodating space,

and

a film tube disposed in said space and containing a flowable substance,

wherein said housing and said end cap have mutually facing end portion surfaces configured such that, during use with a film tube in said space and the end cap in an assembled condition, said end portion surfaces are spaced from one another to form a gap to thereby ensure that pressure exerted on the film tube by the piston results in a sealing force between the ring and cap even with jamming of the film tube in the interior of the housing.

24. An assembly according to Claim 23, wherein said flowable substance is dental impression material.

24 25. A method of dispensing a flowable substance using the assembly of Claim 23.

26. An assembly for dispensing a flowable substance, comprising:

a housing having housing side walls,

a piston movably disposed in said housing,

a detachable end cap operable to close an end of the housing with said end cap,
said housing sidewalls, and said piston together forming a film tube accommodating
space, and

a film tube containing a flowable substance,

wherein said housing side walls have an end section which is disposed inside an
end section of the cap when the cap is in an assembled in use condition, and

wherein said housing side walls include side wall end sections operable to form an
abutment surface for a ring disposed at an end of a film tube disposed in the film tube
accommodated space during use of said assembly.

25 27. A method of dispensing a flowable substance utilizing the assembly of Claim 26.

28. A method according to Claim 25, wherein said flowable substance is a dental
impression material.

29. An assembly for dispensing a flowable substance, comprising:

a housing having housing side walls,

a piston movably disposed in said housing.

a detachable end cap operable to close an end of the housing, said end cap, said housing sidewalls, and said piston together forming a film tube accommodating space, and

a film tube disposed in said space and containing a flowable substance,

wherein said housing, end cap, and film tube are configured so that a first annular portion of said film tube sealingly engages an annular sealing portion of the end cap and a second annular portion of said film tube is spaced from facing surfaces of said end cap.

30. An assembly according to Claim 29, wherein said cap includes a dispensing opening,

and

wherein said annular sealing portion of the end cap extends around said dispensing opening.

31. An assembly according to Claim 30, wherein said second annular portion of said film tube extends around said first annular part.

32. An assembly according to Claim 29, wherein said first and second annular parts are disposed on a ring.

33. An assembly according to Claim 32, wherein said ring is adhered to an end of the film tube.

34. A method of dispensing a flowable substance using the assembly of Claim 29.

35. A method of dispensing a flowable substance using the assembly of Claim 30.

36. A method of dispensing a flowable substance using the assembly of Claim 31.

37. A method of dispensing a flowable substance using the assembly of Claim 32.

38. A method of dispensing a flowable substance using the assembly of Claim 33.